

Table 1

NovaAir Strato Series - Area Coverage *

| 8 Foot Ceiling | 10 Foot Ceiling | 12 Foot Ceiling | Hourly Air Changes |
|---------------------------|----------------------------|----------------------------|-------------------------------|
| 1,380 Sq. Ft. | 1,104 | 920 | 2 |
| 920 | 736 | 613 | 3 |
| 690 | 552 | 460 | 4 |
| 552 | 442 | 368 | 5 |
| 460 | 368 | 307 | 6 |
| 394 | 315 | 263 | 7 |

* Fan performance calculations include unit air resistance losses resulting in a 368 cubic feet per minute effective air volume at maximum speed with 120 volt 60 Hz electrical power.

Table 2

NovaAir Strato Series One Pathogen Inactivation Percentage¹

| Pathogen | Percent Inactivation ² |
|---------------------------------------|-----------------------------------|
| <i>Serratia marcescens</i> | 87.8716 - 99.9806 |
| <i>Escherichia coli</i> | 56.5885 - 99.9984 |
| <i>Staphylococcus aureus</i> | 92.5966 - 99.9963 |
| <i>Streptococcus pyogenes</i> | 100 |
| <i>Pseudomonas aeruginosa</i> | 70.8029 - 100 |
| <i>Legionella pneumophila</i> | 99.7557 - 99.936 |
| Adenovirus | 79.896 |
| Vaccinia (Poxvirus) | 98.8774 |
| Coxsackie virus | 96.1439 |
| Influenza A virus | 96.9427 |
| Echovirus | 99.9865 |
| Reovirus Type 1 | 99.5629 |
| <i>Mycobacterium tuberculosis</i> | 86.8703 - 99.8097 |
| <i>Corynebacterium diptheriae</i> | 86.558 |
| <i>Moraxella-Acinetobacter</i> | 0.585915 |
| <i>Haemophilus influenzae</i> | 85.4482 |
| <i>Bacillus anthracis</i> (mixed) | 77.5872 |
| <i>Bacillus anthracis</i> spores | 90.2988 |
| <i>Bacillus subtilis</i> spores | 61.4022 |
| <i>Penicillium expansum</i> spores | 40.5515 |
| <i>Mucor racemosus</i> spores | 32.7435 |
| <i>Penicillium italicum</i> spores | 30.9412 |
| <i>Fusarium oxysporum</i> spores | 28.0413 |
| <i>Cryptococcus neoformans</i> spores | 25.8956 |
| <i>Penicillium digitatum</i> spores | 19.0671 |
| <i>Aspergillus niger</i> spores | 18.8528 |
| <i>Fusarium solani</i> spores | 18.829 |
| <i>Aspergillus glaucus</i> spores | 14.1687 |
| <i>Cladosporium</i> spores | 10.5644 |
| <i>Scopulariopsis</i> spores | 8.16783 |
| <i>Rhizopus nigicans</i> spores | 5.9837 |
| Blue-green algae | 1.34248 |

1 - Results from device modeling performed by Ultra Violet Devices, Inc., March 2001.

2 - When range of percentages shown, higher value for airborne pathogen inactivation.
Where single percentage shown, pathogen inactivation percentage based on petre dish inactivation data.

Table 3

NovaAir Strato Series Two Pathogen Inactivation Percentage-1

| Pathogen | Percent Inactivation -2 |
|---------------------------------------|-------------------------|
| <i>Serratia marcescens</i> | 90.0844 - 99.9914 |
| <i>Escherichia coli</i> | 59.9133 - 99.9994 |
| <i>Staphylococcus aureus</i> | 94.226 - 99.9986 |
| <i>Streptococcus pyogenes</i> | 100 |
| <i>Pseudomonas aeruginosa</i> | 74.0411 - 100 |
| <i>Legionella pneumophila</i> | 99.8624 - 99.9683 |
| Adenovirus | 82.7514 |
| Vaccinia (Poxvirus) | 99.2688 |
| Coxsackie virus | 97.1742 |
| Influenza A virus | 97.8087 |
| Echovirus | 99.9942 |
| Reovirus Type 1 | 99.7398 |
| <i>Mycobacterium tuberculosis</i> | 89.1841 - 99.8954 |
| <i>Corynebacterium diphtheriae</i> | 88.902 |
| <i>Moraxella-Acinetobacter</i> | 0.641682 |
| <i>Haemophilus influenzae</i> | 87.8944 |
| <i>Bacillus anthracis</i> (mixed) | 80.5698 |
| <i>Bacillus anthracis</i> spores | 92.2361 |
| <i>Bacillus subtilis</i> spores | 64.756 |
| <i>Penicillium expansum</i> spores | 43.4316 |
| <i>Mucor racemosus</i> spores | 35.2432 |
| <i>Penicillium italicum</i> spores | 33.3398 |
| <i>Fusarium oxysporum</i> spores | 30.2672 |
| <i>Cryptococcus neoformans</i> spores | 27.9862 |
| <i>Penicillium digitatum</i> spores | 20.6856 |
| <i>Aspergillus niger</i> spores | 20.4555 |
| <i>Fusarium solani</i> spores | 20.4299 |
| <i>Aspergillus glaucus</i> spores | 15.4118 |
| <i>Cladosporium</i> spores | 11.5128 |
| <i>Scopulariopsis</i> spores | 8.91197 |
| <i>Rhizopus nigricans</i> spores | 6.53599 |
| Blue-green algae | 1.46972 |

1 - Results from device modeling performed by Ultra Violet Devices, Inc., March 2001.

2 - When range of percentages shown, higher value for airborne pathogen inactivation.
Where single percentage shown, pathogen inactivation percentage based on petre dish inactivation data.

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Table 4

Energy Requirement for Microbial Inactivation with Ultraviolet Light

| Bacteria | Energy (Microwatt-Seconds/Square Centimeter) | |
|--|---|---------|
| | 90% | 99.99% |
| <i>Bacillus anthracis</i> * | 4,520 | 8,700 |
| <i>Salmonella enteritidis</i> * | 4,000 | 7,600 |
| <i>Bacillus Megatherium</i> sp. (veg.) * | 1,300 | 2,500 |
| <i>Bacillus Megatherium</i> sp. (spores) * | 2,730 | 5,200 |
| <i>Bacillus paratyphosus</i> * | 3,200 | 6,100 |
| <i>Bacillus subtilis</i> * | 5,800 | 11,000 |
| <i>Bacillus subtilis</i> spores * | 11,600 | 22,000 |
| <i>Corynebacterium diphtheria</i> * | 3,370 | 6,500 |
| <i>Eberthelia typosa</i> * | 2,140 | 4,100 |
| <i>Escherichia coli</i> * | 3,000 | 6,600 |
| <i>Micrococcus candidus</i> * | 6,050 | 12,300 |
| <i>Micrococcus sphaeroides</i> * | 10,000 | 15,400 |
| <i>Neisseria catarrhalis</i> * | 4,400 | 8,500 |
| <i>Photomonas tumeficiens</i> * | 4,400 | 8,500 |
| <i>Proteus vulgaris</i> * | 3,000 | 6,600 |
| <i>Pseudomonas aeruginosa</i> * | 5,500 | 10,500 |
| <i>Pseudomonas fluorescens</i> * | 3,500 | 6,600 |
| <i>Salmonella typhimurium</i> * | 8,000 | 15,200 |
| <i>Sarcina lutea</i> * | 19,700 | 26,400 |
| <i>Serratia marcescens</i> * | 2,420 | 6,160 |
| Dysentery bacilli * | 2,200 | 4,200 |
| <i>Shigella paradysenteriae</i> * | 1,680 | 3,400 |
| <i>Spirillum rubrum</i> * | 4,400 | 6,160 |
| <i>Staphylococcus albus</i> * | 1,840 | 5,720 |
| <i>Staphylococcus aureus</i> * | 2,600 | 6,600 |
| <i>Streptococcus hemolyticus</i> * | 2,160 | 5,500 |
| <i>Streptococcus lactis</i> * | 6,150 | 8,800 |
| <i>Streptococcus viridans</i> * | 2,000 | 3,800 |
| Yeast | | |
| <i>Saccharomyces ellipsoideus</i> * | 6,000 | 13,200 |
| <i>Saccharomyces</i> sp. * | 8,000 | 17,600 |
| <i>Saccharomyces cerevisiae</i> * | 6,000 | 13,200 |
| Brewers yeast * | 3,300 | 6,600 |
| Bakers yeast * | 3,900 | 8,800 |
| Mold Spores | | |
| <i>Penicillium roqueforti</i> * | 13,000 | 26,400 |
| <i>Penicillium expansum</i> * | 13,000 | 22,000 |
| <i>Penicillium digitatum</i> * | 44,000 | 88,000 |
| <i>Aspergillus glaucus</i> * | 44,000 | 88,000 |
| <i>Aspergillus flavus</i> * | 60,000 | 99,000 |
| <i>Aspergillus niger</i> * | 132,000 | 330,000 |
| <i>Rhizopus nigricans</i> * | 111,000 | 220,000 |
| <i>Mucor racemosus</i> A * | 17,000 | 35,200 |
| <i>Mucor racemosus</i> B * | 17,000 | 35,200 |
| <i>Oospora lactis</i> * | 5,000 | 11,000 |
| Virus | | |
| Adeno Virus Type III ** | | 4,500 |
| Coxsackie A2 ** | | 6,300 |
| Infectious Hepatitis ** | | 8,000 |
| Influenza ** | | 3,400 |
| Rotavirus ** | | 24,000 |
| Poliovirus ** | | 21,000 |

* - Data acquired from Table II, Incident Energies at 2537 Å Radiation Necessary to Inhibit Colony Formation in 90% of the Organisms and for Complete Destruction, Application and Measurement of Ultraviolet Radiation by Rudolph Nagy of Westinghouse Electric Corporation and printed in the American Industrial Hygiene Association Journal, Volume 25, Pages 276, May-June 1964.

** - Data acquired from Dosage of UV-C in Microwatt sec/ square centimeter necessary for complete destruction, NQ Environmental, Inc., 1997.

Table 5

NovaAir Strato Series - Suggested Applications for Various Ranges of Hourly Air Changes

Ranges of Hourly Air Changes

Suggested Applications

| | |
|----------|--|
| 2 to 2.5 | Utility and storage rooms and areas that are lightly traveled. |
| 2 to 4 | Offices; government and other office complexes; businesses; schools; restaurants; hotels; and prisons detention areas. |
| 3 to 7.5 | Hospital and clinic hallways, reception, and administrative areas and patient rooms or wards; dentist and doctor offices; pharmacies and drug stores; laboratories; pathologist's diagnostic and office areas; and prison medical wards. |

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